Introduction

Electronic instrumentation and computers have been applied to investigate a host of biological and physiological systems and phenomena, such as the electrical activity of the cardiovascular system, the brain, the neuromuscular system, and the gastric system; pressure variations in the cardiovascular system; sound and vibration signals from the cardiovascular etc. The clinically relevant information in the signals (ECG, EEG etc..) is often masked by noise and interference, and the signal features may not be readily comprehensible by the visual or auditory systems of a human observer. These factors created the need not only for improved instrumentation, but also for the development of methods for objective analysis via signal processing algorithms implemented in electronic hardware or on computers. The major strength in the application of computers in biomedical signal analysis lies in the potential use of signal processing and modeling techniques for quantitative or objective analysis. Computer analysis of biomedical signals, if performed with the appropriate logic, has the potential to add objective strength to the interpretation of the expert. The motivation is to distinguish between normal and abnormal signals or systems, and the potential use of the methods in diagnosis.

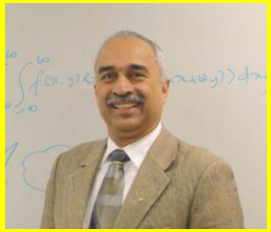
In this regard, it is decided to invite Dr. Rangaraj M. Rangayyan from The University of Calgary, Calgary, Alberta, Canada, to have discussions and deliver lectures on recent developments. The course will be planned and offered as per the norms set by IIT Kharagpur for ISWT subject.

Course Contents

The primary objectives of the course are as follows:

i) Exposing participants to the fundamentals of Biomedical Signal Analysis.
ii) Building in confidence and capability amongst the participants in the application of advanced tools and techniques.
iii) These lectures will give exposure to new areas of research and development which is carried out at the foreign universities and rest of the world. This workshop will help to enhance research competence of faculty and department in the area of Biomedical Signal Analysis.
iv) Providing exposure to practical problems and their solutions, through case studies and live projects in Biomedical Signal Analysis.

About Prof. Rangaraj M. Rangayyan:



Rangaraj M. Rangayyan is a Professor of Electrical and Computer Engineering, and an Adjunct Professor of Surgery and Radiology, at the University of Calgary, Calgary, Alberta, Canada. He received the Bachelor of Engineering in Electronics and Communication in 1976 from the University of Mysore at the People's Education Society College of Engineering, Mandya, Karnataka, India, and the Ph.D. in Electrical Engineering from the Indian Institute of Science, Bangalore, Karnataka, India, in 1980.

His research interests are in digital signal and image processing, biomedical signal and image analysis, and computer-aided diagnosis. He has published more than 150 papers in journals and 250 papers in proceedings of conferences. He has been recognized with the 1997 and 2001 Research Excellence Awards of the Department of Electrical and Computer Engineering, the 1997 Research Award of the Faculty of Engineering, and by appointment as "University Professor" (2003-2013) at the University of Calgary. He is the author of two textbooks: "Biomedical Signal Analysis" (IEEE/ Wiley, 2002, 2015) and "Biomedical Image Analysis" (CRC, 2005). He has coauthored and coedited several other books, including "Color Image Processing with Biomedical Applications" (SPIE, 2011). He has been recognized with the 2013 IEEE Canada Outstanding Engineer Medal, the IEEE Third Millennium Medal (2000), and elected as Fellow, IEEE (2001); Fellow, Engineering Institute of Canada (2002); Fellow, American Institute for Medical and Biological Engineering (2003); Fellow, SPIE (2003); Fellow, Society for Imaging Informatics in Medicine (2007); Fellow, Canadian Medical and Biological Engineering Society (2007); and Fellow, Canadian Academy of Engineering (2009).

Who can Participate:

Registration is open to:

i) Faculty members working in engineering colleges.
ii) Executives, engineers and researchers from manufacturing, service and government organizations including R&D laboratories.
iii) Student and research scholars from reputed academic institutions and technical institutions.

How to Register?

Stage -1:

Web(Portal) Register:

Visit GIAN Website at the link: http://www.gian.iitkgp.ac.in/GREGN/index and create login User ID and Password. Fill up the blank registration form and do web registration by paying **Rs 500/-** online through **Net Banking / Debit / Credit** card. This provides him/her with life time registration to enroll in any number of the GIAN courses offered.

Stage -2:

Course Registration(Through GAIN Portal):

Log in to the GIAN portal with the user ID and password created. Click on **'Course Registration'** option given at the top of the registration form. Select the Course titled **"Biomedical Signal Analysis"** from the list and click on **'Save'** option. Confirm your registration by Clicking on **'Confirm Course'.**

Registration Fees:

Faculty and scientists	Rs 2000/-
Participants from industry/ Training organizations/ consultancy firms	Rs 4000/-
Students and research scholars	
• Without award of grade	Rs 500/-
• With award of grade	Rs 1000/-
Student participants from abroad	USD 50
Other participants from abroad	USD 100

The registration fee includes instructional materials, tutorials, laboratory and computer use, free internet facility, working lunch, mid sessions tea and snacks. Outstation participants will be provided accommodation and boarding in visitors Block/Hostel in the campus on payment.

Selection and Mode of Payment

Selected candidates will be intimated through Email. They have to remit the necessary course fee to the Bank as per the details given below. Outstation participants requiring accommodation and boarding facilities have to pay Rs.4000/- in addition to the course fee.

Account Name	GIAN NITW
Account Number	62447453600
Bank	State Bank of Hyderabad
Branch	REC Warangal (NIT Campus)
Branch Code	20149
IFSC	SBHY0020149
MICR Code	506 004 011
SWIFT Code	SBHYINBB018

***Candidates registering early will be given preference in short listing process.**

For any queries regarding registration of the course, please contact the Coordinator:

Dr. T. Kishore Kumar,
Coordinator & Head,
Department of Electronics and Communication Engineering,
National Institute of Technology,
Warangal - 506 004, Telangana, India.
Ph: Mob-8332969353, Office-0870-2462400.
Email : kishoret@nitw.ac.in

Patron
Prof.R.V Chalam, I/C Director , NIT Warangal
Institute Coordinator for GIAN
Prof. CSRK. Prasad, NIT Warangal

About GIAN Courses
MHRD, Govt. of India has launched an innovative program titled 'Global Initiative of Academic Networks'(GIAN)in Higher Education, in order to garner the best international experience into our system. As a part of this, internationally renowed Academicians and Scientists are invited to augment the country's academic resources, accelerate the pace of quality reforms and elevate India's scientific and technological capacity to global excellence.

About the Institute and Warangal

National Institute of Technology (formerly Regional Engineering College), Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institution imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering and M.Tech and Ph.D programmes in various specializations. With a view to give further impetus to the technological education, the Central Govt. upgraded the RECs into NITs, and conferred the Deemed to be University status.

Warangal is known for its rich historical and cultural heritage. It is situated at a distance of 140Km. from Hyderabad. Warangal is well connected by rail and road. National Institute of Technology campus is 2 Km. away from Kazipet railway junction and 12Km. away from Warangal railway station. Participants are advised to alight either at Kazipet or Warangal depending upon the train of travel. The local weather during June is moderate. The average temperature will be about 42 degrees Centigrade during day and about 26 to 28 degree Centigrade during night.

6 Day GIAN Course
On

Biomedical Signal Analysis

10th Oct – 15th Oct 2016

Call for Registration and participation

International Faculty
Prof. Rangaraj M. Rangayyan
University of Calgary
Calgary, Alberta
Canada

Coordinator

Dr. T. Kishore Kumar

Co-coordinator

Sri. K.V.Sridhar

Organized by

DEPARTMENT OF
ELECTRONICS AND COMMUNICATION ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY

WARANGAL-506004
TELANGANA